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Hoffmann & B	7590 09/06/2007 aron L.L.P	EXAMINER		
6900 Jericho Turnpike			DESHPANDE, KALYAN K	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

·		Application No.	Applicant(s)					
Office Action Summan		10/091,762	KESTI, MARKO	KESTI, MARKO				
	Office Action Summary	Examiner	Art Unit					
		Kalyan K. Deshpande	3623					
Period fo	The MAILING DATE of this communication app r Reply	ears on the cover shee	t with the correspondence ac	idress				
WHIC - Exter after - If NO - Failur Any r	CRTENED STATUTORY PERIOD FOR REPL' HEVER IS LONGER, FROM THE MAILING DOWNS of time may be available under the provisions of 37 CFR 1.1 SIX (6) MONTHS from the mailing date of this communication, period for reply is specified above, the maximum statutory period or the to reply within the set or extended period for reply will, by statute eply received by the Office later than three months after the mailing of patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMU 36(a). In no event, however, ma vill apply and will expire SIX (6) I , cause the application to become	INICATION. y a reply be timely filed  MONTHS from the mailing date of this ce ABANDONED (35 U.S.C. § 133).					
Status		•						
1)⊠	Responsive to communication(s) filed on 14 Ju	ine 2007						
· —	This action is <b>FINAL</b> . 2b)⊠ This action is non-final.							
/	<i>,</i> —							
,—	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.							
Dispositi	on of Claims							
4)⊠	☑ Claim(s) <u>31-48</u> is/are pending in the application.							
•	4a) Of the above claim(s) is/are withdrawn from consideration.							
	Claim(s) is/are allowed.							
6)🖂	Claim(s) <u>31-48</u> is/are rejected.							
7)								
8)[	8) Claim(s) are subject to restriction and/or election requirement.							
Applicati	on Papers							
9)[]	The specification is objected to by the Examine	· ·	,					
•	The drawing(s) filed on <u>05 March 2002</u> is/are:		objected to by the Examine	er.				
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
	Replacement drawing sheet(s) including the correct	= ' '		FR 1.121(d).				
11)	The oath or declaration is objected to by the Ex	caminer. Note the attac	hed Office Action or form P	TO-152.				
Priority ι	ınder 35 U.S.C. § 119							
12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)□ All b)□ Some * c)⊠ None of:								
	1.⊠ Certified copies of the priority documents have been received.							
	2. Certified copies of the priority documents have been received in Application No							
	3. Copies of the certified copies of the priority documents have been received in this National Stage							
	application from the International Burea	, , , , , , , , , , , , , , , , , , , ,						
* S	see the attached detailed Office action for a list	of the certified copies	not received.					
Attachmen		A) [ ] 1-4	ou Summon (DTO 442)					
	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948)		ew Summary (PTO-413) No(s)/Mail Date					
3) Inform	nation Disclosure Statement(s) (PTO-1449 or PTO/SB/08) r No(s)/Mail Date		of Informal Patent Application (PT	O-152)				

#### **DETAILED ACTION**

#### Introduction

The following is a non-final office action in response to the application filed June
 2007. Claims 31-48 are now pending.

## Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 14, 2007 has been entered.

## **Priority**

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Finland on April 24, 2001. It is noted, however, that applicant has not filed a certified copy of the 20010838 application as required by 35 U.S.C. 119(b). Applicant is reminded to file this certified copy in order to maintain a priority date of April 24, 2001.

#### Response to Amendments

4. Applicants' cancellation of claims 11-30 is acknowledged. Applicants' submission of new claims 31-48 is acknowledged.

#### Response to Arguments

5. Applicants' arguments filed on June 14, 2007 have been fully considered but are not found persuasive. Applicants argue i) claims 31 and 40 accomplish a method and

apparatus for controlling an optimizing process, ii) the step of "determining a radius length" is clear and definite, iii) the steps of "summing vectorally said plurality of line segments plotted on a scale; and dividing said vector sum by said radius length" is clear and definite, iv) the recited method is specific, v) Locke fails to teach the limitations of independent claims 31 and 40, vi) there is no motivation to modify Locke to include the step of "determining a radius length", vii) there is no motivation to modify Locke to include the feature of "calculating an angle", and viii) there is no motivation to modify Locke to include the step of summing the line segments.

In response to Applicants' argument claims 31 and 40 accomplish a method and apparatus for controlling an optimizing process, Examiner respectfully disagrees. Applicants generally allege that the recited limitations can be used to optimize a process, however, the recited steps only call for determining a probability value. Merely determining a probability value does not clearly optimize a process. Since the claims fail to recite a specific type of application that is being controlled and optimized, the mere determination of a probability value does not necessarily optimize a general claim to optimize.

In response to Applicants' argument the step of "determining a radius length" is clear and definite, Examiner respectfully disagrees. Applicants specifically allege that figure 5 and formula 4 clearly illustrate the determination of a radius. Figure 5 only depicts a scale with plotted points Applicants are alleging are a radius. Formula 4 suggests that a radius is determined by multiplying a number of group members and a chosen maximum. It is unclear as to how the result of such a mathematical step is a

radius. Furthermore, Applicants specifically argue that the use of group members is only one potential embodiment of the present invention, thus it is unclear as to how such a specific algorithm can be applied to such broad claim language.

In response to Applicants' argument the steps of "summing vectorally said plurality of line segments plotted on a scale; and dividing said vector sum by said radius length" is clear and definite, Examiner respectfully disagrees. Applicants specifically argue that Figure 5 and formula 6 clearly illustrate the performance of these steps. However, formula since fails to even use the determined radius value. Formula 6 describes the calculation of a total competence value by summing a probability value and some commitment value. Regardless, formula 6 fails to enable the calculation of a probability value. Even if formula 1 teaches the determination of a probability value, it does not do so in the manner recited by the present claims (i.e. there is no vectoral summation in formula 1). Thus, Applicants' mere allegation that formula 6 and figure 5 clearly illustrate this feature is incorrect and still renders the recitation of the present method and apparatus steps vague and indefinite.

In response to Applicants' argument the recited method is specific and therefore useful, Examiner respectfully disagrees. Applicants even concede that the present invention can be broadly applied to any process (see June 14, 2007 Remarks page 7 and 11). Thus the present invention is not specific and fails to satisfy the useful prong of 35 U.S.C. 101. Furthermore, the present claims are not tangible. Applicants generally allege that the recited claims satisfy 35 U.S.C. 101 without specifically pointing out how the claims are useful (specific) and tangible. Examiner maintains that

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the present invention fails to recite specific and credible results and fails to recite a tangible result and therefore fails to satisfy the useful, concrete and tangible requirements of 35 U.S.C. 101. Examiner further notes the additional discussion of the present claims in view of the mathematical algorithm per se judicial exception discussed below.

In response to Applicants' argument Locke fails to teach the limitations of independent claims 31 and 40, Examiner respectfully disagree. Applicants provided a general summary of the method of the present invention and a general summary of Locke and then generally allege that Locke fails to teach independent claims 31 and 40. Thus, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to Applicants' argument there is no motivation to modify Locke to include the step of "determining a radius length", Examiner respectfully disagrees.

Since Locke is concerned with optimizing a process, it would be obvious to one of ordinary skill in the art to modify the teachings of Locke in order to determine a radius length and to finally calculate a probability value that can be used to optimize a process. As discussed above, the determination of a probability value is vague and indefinite to the point where it appears that the calculation of a radius value is merely the multiplication of pre-determined and collected data values in order to determine a probability value. Thus, one of ordinary skill in the art would be motivated to modify

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Locke to determine the radius value (i.e. some value representing the product of a fixed value and a collected value).

In response to Applicants' argument there is no motivation to modify Locke to include the feature of "calculating an angle", Examiner respectfully disagrees. This argument is most because Applicants' have amended to not include this step in the newly recited claims.

In response to Applicants' argument there is no motivation to modify Locke to include the step of summing the line segments, Examiner respectfully disagrees.

Examiner agree with Applicants that this argument is the same as the argument directed towards "determining a radius" and therefore directs Applicants to the discussion of this rejection above. Examiner further notes that it appears that Applicants are alleging that formula 6 controls the determination of the probability value, however, the formula 6 is not clearly represented in the recitation of the claims. If Applicants are attempting to claims formula 6, Examiner notes that Applicants should recite all of the elements of formula 6.

Examiner notes the following discussion of Official Notice taken from the MPEP:

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also Chevenard, 139 F.2d at 713, 60 USPQ at 241 ("[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention."). A general allegation that the claims define a patentable invention without any reference to the examiner's assertion of official notice would be inadequate. If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test). If the examiner

is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2). If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate. (MPEP § 2144.03(C))

Applicants have not "specifically point[ed] out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art." For these reasons, the steps to determine a radius by multiplying two values, to divide a sum of data values by a value that is the result of a data value multiplied by a fixed pre-determined constant, and to display values, including line segments and probability values, after the determination of these values has been complete are taken to be admitted prior art because Applicant's traversal was inadequate.

# Claim Rejections - 35 USC § 112

- 6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

  The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 7. Claims 31-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 31 and 40 recite a method and a system for controlling and optimizing a process, however, the result of the body of the claims do not recite a method for controlling or optimizing a process. It is unclear how the body of the claims

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accomplishes the method and system recited. Furthermore, Examiner notes that the present invention is directed to the control and optimization of a business process, more specifically, the present invention discloses the optimization of a process using the work ability of personnel and correlating this factor to the probability of success of the work team as per the disclosed specifications of the present invention. Examiner notes that the recited limitations of the present invention do not accomplish this set forth method or system. Further more, Claims 31 and 40 recite forming a line that represents a relationship between the pre-determined maximum value and the first type of information. It is unclear what relationship forming this line segment will represent and how this line segment is different from the radius. Claims 32-39 and 41-48 recite the same subject matter rejected in claims 31 and 40, and therefore are rejected for the same reasons discussed above.

Claims 35 and 44 recite "determining a radius", however, it is unclear from the body of the claim exactly how the radius is determined. The body of the claim suggests that multiplying a pre-determined maximum value with a first type of information will yield a radius, though it is unclear how this will yield a radius.

Claims 36 and 45 recite "calculating the probability value" summing the line segments and dividing the sum by the radius. It is unclear how the line segments are summed and are divided by a radius. Furthermore, it is unclear how these computations will result in a probability value.

# Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 31-44 are rejected under 35 U.S.C. 101. Under the statutory requirement of 35 U.S.C. § 101, a claimed invention must produce a useful, concrete, and tangible result. For a claim to be useful, it must yield a result that is specific, substantial, and credible (MPEP § 2107). A concrete result is one that is substantially repeatable, i.e., it produces substantially the same result over and over again (In re Swartz, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000)). In order to be tangible, a claimed invention must set forth a practical application that generates a real-world result, i.e., the claim must be more than a mere abstraction (Benson, 409 U.S. at 71-72, 175 USPQ at 676-77). Additionally, a claim may not preempt abstract ideas, laws of nature or natural phenomena nor may a claim preempt every "substantial practical application" of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves (Gottschalk v. Benson, 409 U.S. 63, 71-72 (1972)). (Please refer to the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" for further explanation of the statutory requirement of 35 U.S.C. § 101.).

Claims 31 and 40 merely recite the manipulation of an abstract idea and fail to produce a useful result. Claims 31 and 40 recite a "method for controlling and optimizing a process", however, the body of the limitation and the steps set forth therein fail to produce a "method for controlling and optimizing a process". Because the body of the claim fails to accomplish the method set forth in the preamble, claims 31 and 40 fail to produce a useful result.

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Furthermore, claims 31 and 40 merely recites the manipulation of an abstract idea and fails to produce a tangible result. Claims 31 and 40 result in "adjusting at least one of said inputs of said processes based on the probability value", which is a mere abstract idea that does not produce real-world results, therefore result of this step is not tangible. Because the results produced by these steps are not tangible, claims 11 and 20 are considered to be directed toward non-statutory subject matter.

Claims 32-39 and 41-48 recite subject matter already addressed by the 35 U.S.C. 101 tangibility rejections of claims 31 and 40; therefore the same rejection applies to these claims.

Additionally, claims 31-48 are directed toward a mathematical algorithm *per se*. There is no practical application of the algorithm, thereby rendering the claimed invention an abstract idea *per se* (which is non-statutory under § 101). Consequently, the claims fail to produce a result that is useful, concrete, and tangible. Additionally, the values, vectors, matrices, and thresholds are so broadly defined that it is not clear how they specifically relate to optimizing and controlling a process. The claims are so broadly and abstractly written that they attempt to preempt every "substantial practical application" (as admitted to by Applicants in the response submitted by Applicants on June 14, 2007 pages 7 and 11) of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves, which is prohibited under § 101. Thus, the broadly and abstractly written claims are nothing more than a mere mathematical algorithm per se.

Claim Rejections - 35 USC § 102

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10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 31-34, 39, 40-43, and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by Locke (U.S. Patent Publication No. 20020099585).

As per claim 31, Locke teaches:

A method of controlling and optimizing a process comprising:

Collecting a plurality of initial information based on predetermined criteria associated with a process, each of said plurality of initial information having a first criteria value associated therewith (see paragraphs 16-24; where the value of the cost function is optimized based on managing all of the parameters that affect the cost function. All parameters that affect the cost function are input information. For example, the replenishment quantity and length of inventory cycle are input information.);

Collecting a plurality of control information for controlling said process, each of said plurality of control information having a second criteria value associated therewith (see paragraphs 16-24; where the value of the cost function is optimized based on managing all of the parameters that affect the cost function. The parameters used to optimize the cost function are the second criteria value.);

Forming a plurality of line segments representing said plurality of initial information, each of said plurality of line segments having a length corresponding to said first criteria value of each of said plurality of initial information (see paragraphs 36-47; where line segments are formed between data points and control points.

Control points are chosen based on the desired accuracy of the optimization, which is the same as the maximum desired value.);

Plotting each of said plurality of line segments on an equidistant dualistic scale at an angle corresponding to at least one of said second criteria values (see paragraphs 36-47; where line segments are drawn on the vector scale based on the angle between the data points. Control points are generated at the ends of the segments, which is the same as the zero point.);

Calculating a probability value for achieving an expected result from said process using said plotted line segments (see paragraphs 35-47 and figures 3-4; where a value closest to the pre-determined control point is determined. This point is the optimal point.);

Modifying at least one of said initial information and control information by adjusting said plotted line segments on said equidistant scale in response to said probability value (see paragraphs 35-47; where the parameters are adjusted to determine the optimize the cost function.); and

Controlling said process using said modified at least one initial information and control information (see paragraphs 35-47 and figures 3-4; where the process is controlled using the parameters.).

As per claim 32, Locke teaches:

The method of claim 31, further comprising:

Collecting quantitative values from each of said plurality of initial and control information (see paragraphs 16-24 and 35; where the value of the cost function is optimized based on managing all of the parameters that affect the cost function. All parameters that effect the cost function are input information. For example, the replenishment quantity and length of inventory cycle are input information.); and

Averaging said quantitative values associated with each of said plurality of initial and control information (see paragraphs 16-24 and 35; where the average of the parameters can be incorporated in optimizing the process. In the example provided, the SKU is averaged over time in dollars per day.).

As per claim 33, Locke teaches:

The method of claim 32, comprising determining said quantitative values continuously (see paragraph 36; where discontinuities can be eliminated.).

As per claim 34, Locke teaches:

The method of claim 31, further comprising forming said equidistant scale with a substantially 180 degree angle (see figures 3-4; where the vector based scale has a 180 degree angle.).

As per claim 39, Locke teaches:

The method of claim 31, wherein said probability value is a balanced probability value describing a likelihood of a team obtaining an optimized process result (see

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paragraph 51; where the system is applied to accelerate the probability of success for teams using the system.).

Claims 40-43 and 48 recite an apparatus embodiment of the method recited in claims 31-34 and 39, which is taught by Locke (see paragraph 62). Claims 40-43 and 48 further recite limitations already addressed by the rejections of claims 31-34 and 39; therefore the same rejections apply to these claims.

## Claim Rejections - 35 USC § 103

- 12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 13. Claims 35-38 and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Locke (U.S. Patent Publication No. 20020099585).

As per claim 35, Locke fails to explicitly teach "determining a radius length for said vector-based scale by multiplying a pre-determined maximum value associated with a plurality of initial information by a number of said plurality of initial information". It is old and well-known in the art to determine a radius by multiplying two values. The advantage of determining the radius is that it enables one to determine the optimal points for the business process. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to modify Locke to incorporate the feature "determining a radius length for said vector-based scale by multiplying a pre-determined maximum value associated with said first type of information by a number of said

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values" in order to best evaluate the optimal points for the business process, which is a goal of Locke (see paragraph 1-3).

As per claim 36, Locke teaches "calculating the probability value comprises: summing vectorally a plurality of line segments plotted on said scale" (see paragraphs 15 and 25; where a plurality of values are mapped and summed. Line segments represent data values of the business process.). Locke fails to explicitly teach "dividing said vector sum by said radius length". It is old and well-known in the art to divide a sum of data values by a value that is the result of a data value multiplied by a fixed predetermined constant. The advantage of this feature is that it enables a user to accurately and properly determine the necessary values in order to optimize the process. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to modify Locke to incorporate the feature of "dividing said vector sum by said radius length" in order to enable a user to accurately and properly determine the necessary values to optimize the process, which is a goal of Locke (see paragraphs 1-3).

As per claim 37, Locke teaches an apparatus, method, and a computer program to perform the optimization of a business process (see abstract). Locke further teaches determination of optimal values using a plurality of input values and graphic the input values and the result values (see paragraphs 16-24 and 35-47 and figures 3-4). Locke fails to explicitly teach "displaying said plurality of line segments and said probability value in a graphical user interface". It is old and well-known in the art to display values, including line segments and probability values, after the determination of these values

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has been complete. The advantage of displaying the values is that it facilitates a users ability to select the appropriate values for use in actual production. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to modify Locke to incorporate the feature "display said plurality of line segments and said probability value in a graphical user interface" in order to facilitate a user's ability to select the appropriate values for use in actual production, which is a goal of Locke (see paragraphs 1-3).

As per claim 38, Locke teaches collecting a first and second type of information (see paragraphs 16-24 and 35; where the value of the cost function is optimized based on managing all of the parameters that affect the cost function. All parameters that effect the cost function are input information. For example, the replenishment quantity and length of inventory cycle are input information.). Locke does not expressly teach the specific data recited in claim 38; however, these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 3 2106.

Claims 44-47 recite an apparatus embodiment of the method recited in claims 35-38, which is taught by Locke (see paragraph 62). Claims 44-47 further recite

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limitations already addressed by the rejections of claims 35-38; therefore the same rejections apply to these claims.

#### Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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